

Rainbow in a Jar



Hey guys! I'm Miss Leah, and I really miss hosting **STEAM** Team every month here at the library. We all hope you're staying safe and healthy these days, and hopefully we'll be reopening soon. In the

meantime, I'm going to show you all how to make a **stacked rainbow** in a jar (or glass, or tube, or whatever you have on hand). This project is all about **density**. Density describes how compact or concentrated something is, which affects the overall mass. Ever watch a lava lamp swirl around? Same general principle. The liquids contain different densities, which means they won't mix together. Let's get started!

First thing, you'll need your **supplies**:



- 2 cups of water
- Oil (I used vegetable, but olive, canola, and coconut should work, too)
- Granulated sugar
- Blue dish soap
- Food coloring
- Clear jar or tube
- Dropper or baster

Step 1



Warm up a cup of water and stir in about $\frac{1}{2}$ cup of granulated sugar. Add purple food coloring. Using a dropper, add the purple water to an empty tube or jar.



Step 2



Slowly add some blue dish soap on top of the purple sugar water. Notice how they don't mix? The purple water is denser than the dish soap!

Step 3

Next is green! Add a few drops of food coloring to plain water (no sugar or anything). Note: this water can be room temperature.



Once again, use the dropper to slowly add this. It helps to pour the liquid down the side of the tube. The green should sit right on top of the blue. Pretty cool, huh?

On to the next step!

Step 4

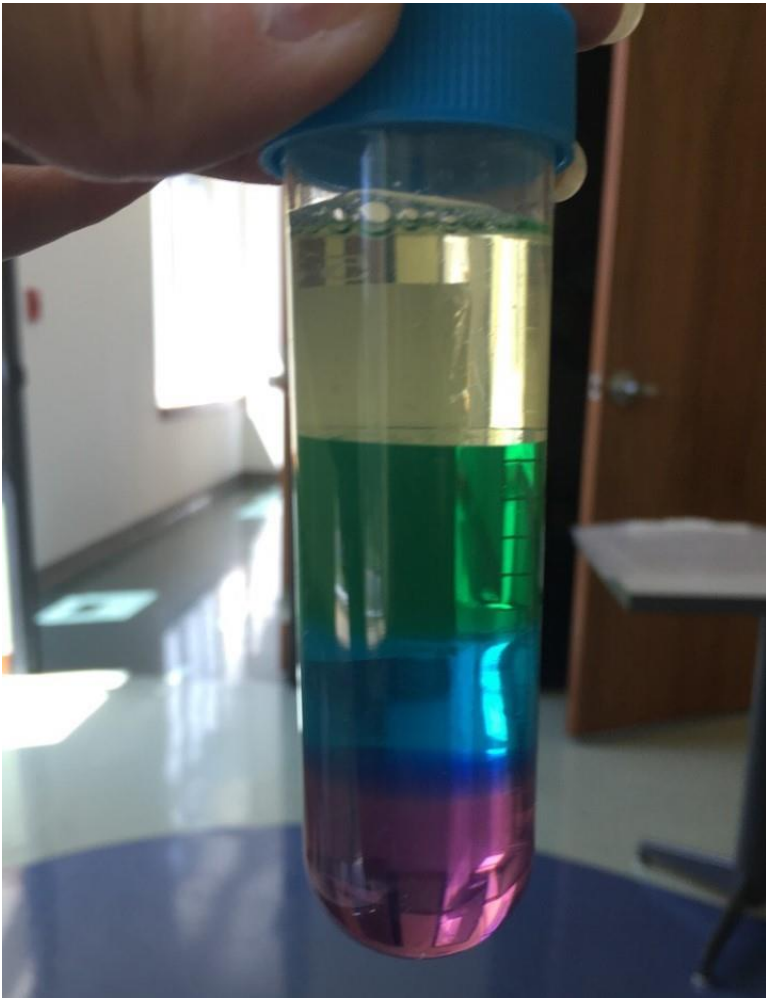
Time to add the oil. Because oil has such a low density, it will float up to the top.



I recommend putting the oil into a measuring cup for more precise pouring. The dropper will work, too.



There you have it! The liquids don't mix, all because of their different densities!



I hope you enjoy this!





~Miss Leah



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